

Summer Program Uncovers Future GEMS for Work Force

By Randy Siniard, AMRDEC Public Affairs

REDSTONE ARSENAL, Ala. (Aug. 6, 2010)
— What do most of you remember about June and July 2010? The heat!

Yeah me too, but I also remember the 107 students who participated in the Gains in the Education of Mathematics and Science program.

Over the summer, there were 54 GEMS I students in June, 33 GEMS II in July, and 20 GEMS III students for one week in July.

Leading the groups were five dedicated teachers who worked tirelessly to help these stu-

dents learn more than just the projects they were working on.

“Every year the amounts of students (for GEMS) are increasing. Last year there were approximately 90 students,” said Melonie Hansen, lead GEMS instructor.

The students learned to push beyond their limits and exceed their own expectations; they learned about teamwork; they learned about how mathematics and science are applied in the real world and more important they had fun doing it.

On the first day of GEMS I, the students walked into a classroom not knowing who Ruben Goldberg was and in a matter of a few frantic days they built machines that rivaled others that bore his name; most people would take one or two steps to pop a balloon but these students took at least 13.

They assembled bridges that were load tested. One bridge exceeded all others by supporting 90 pounds, an amazing feat when you consider it was made from popsicle sticks, hot glue and string.

They built robots for a robot soccer match and brought a little of the World Cup to Redstone Arsenal -- close scores, excitement and the thrill of competition.

The GEMS II students recreated medieval history by building trebuchets, returned to modern day as they assembled computer kits and programmed a game into them, and looked into the future by designing and building personal hovercrafts.

One of the single-person hovercrafts glided effortlessly from one high bay to another, covering the 200-yard practice track behind the Software Engineering Directorate. It was the talk of SED all week; the GEMS students always made an impression on the SED work force.



With the orange bucket suspended underneath the 11-inch span of the popsicle stick bridge, GEMS instructor Jessica Long begins to add weights to test for strength and durability. She asks the room to remain quiet so she can hear the slightest cracking sound ... then the bucket hits the floor.

“The GEMS program is of great value to AMRDEC, the Army and the country as a whole. Exposing eighth-12th grade students to the fields of science and engineering and encouraging them to consider a career in these professions is key to leading the world in science and technology.” said Frank Hayes, AMRDEC Army Educational Outreach Program coordinator.

GEMS is the first rung in the ladder, then the students can hopefully work into SEAP (Science and Engineering Apprentice Program), SMART (Science, Mathematics and Re-

search for Transformation Scholarship for Service bench.”
Program), summer hire and cooperative programs leading them to become full-time employees, Hayes said.

Every Friday during June and July when GEMS classes were in session, AMRDEC director Eric Edwards would spend many hours watching the students compete. He has a strong belief that the GEMS program is a great way to “build the bench.”

Edwards has firsthand knowledge that the AEOP programs do work.

In 1983, he began his civil service career with the Missile Intelligence Agency as an engineering trainee through the University of Alabama’s Co-operative Education Program. He stayed with the MIA upon graduation.

Edwards said he believes that GEMS will

ignite a spark in the students and then this spark will help them develop an interest in getting degrees in science or mathematics. Then down the road in eight to 10 years, they may take jobs in AMRDEC as engineers and scientists -- thus “building the



GEMS II students discuss ways to steer their team’s hovercraft after it travelled on a cushion of air 200 yards between high bays on the Software Engineering Directorate’s hard stand during a practice run.